

DATA SUMMARY REPORT

70014

**Hudson River Project
Sampling and Analysis Program**

**1991 Thompson Island Pool Total Suspended
Solids Study**



**General Electric Company
Corporate Environmental Programs
Albany, New York**

May 1993



**O'BRIEN & GERE
ENGINEERS, INC.**

DATA SUMMARY REPORT

**HUDSON RIVER PROJECT
SAMPLING AND ANALYSIS PROGRAM**

1991 THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY

**GENERAL ELECTRIC COMPANY
CORPORATE ENVIRONMENTAL PROGRAMS
ALBANY, NEW YORK**

MAY 1993

**O'BRIEN & GERE ENGINEERS, INC.
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SECTION 1 - INTRODUCTION

1.01 Background

This data summary report presents results of the 1991 Thompson Island Pool Total Suspended Solids Study (TIPTSSS) conducted by O'Brien & Gere Engineers, Inc. This work was prompted by the PCB Reassessment Remedial Investigation and Feasibility Study (RRI/FS) being performed on the upper Hudson River by the U.S. Environmental Protection Agency (USEPA). The work being performed by USEPA in conjunction with the Hudson River RRI/FS is described in their Phase 1 Report (USEPA, 1991) and the Final Phase 2 Work Plan and Sampling Plan (USEPA, 1992). The TIPTSSS consisted of water column sampling and analysis for total suspended solids (TSS). This study was performed in accordance with the Quality Assurance Project Plan (QAPP; O'Brien & Gere, 1993) prepared for this project and included the installation and operation of automatic samplers at selected locations within the Thompson Island Pool.

1.02 Program Objectives

The objective of the TIPTSSS was to provide data to assist in the evaluation of the origin and fate of suspended solids within the Thompson Island Pool. To meet these objectives, TSS and hydrological data were collected from the upper Hudson River under several hydraulic loading conditions. Elevated flow rates may induce scouring of the river bed, leading to resuspension of sediments. The TIPTSSS was therefore conducted during two potentially high flow periods. These periods included April - May, and September - November, 1991.

SECTION 2 - METHODS

2.01 Sampling Locations

In order to evaluate the origin and fate of suspended solids within the Thompson Island Pool, samples were collected from one upstream and one downstream location in the Thompson Island Pool in April and May 1991. These locations included the northern tip of Rogers Island in Ft. Edward (upstream end of the Thompson Island Pool), and the western wing wall of the Thompson Island Dam (downstream end of Thompson Island Pool). During September, October, and November of 1991, samples were collected at three locations in the Thompson Island Pool, including the northern tip of Rogers Island, the western wing wall of the Thompson Island Dam, and a third location on the east shore of the river approximately one mile upstream of the Thompson Island Dam (McDonald property). This location was upstream of the Moses Kill, a major tributary to the Thompson Island Pool, and downstream of Snook Kill. This location was sampled in order to evaluate the contribution of Moses Kill on suspended solids in the Thompson Island Pool. A sample collection schedule is presented on Table 1. Sampling locations are illustrated on Figure 1.

2.02 Sample Collection Procedures

Samples were collected at each site with a battery operated Manning automatic sampler. The samplers were secured at each location in locked, insulated shelters. The sampler intake tubing was suspended at mid-depth (approximate due to water level fluctuations) in the water column inside a protective PVC pipe casing.

Each sampler was programmed to collect a discrete sample every six hours. The automatic samplers were serviced three times per week during April and May, and twice per week during September, October, and November. The automatic sampler operational sequence was as follows:

- initial set-up by O'Brien & Gere personnel (ampler programmed to collect 1 sample every 6 hours for maximum of 6 days),
- sampling cycle begins (sampler purge cycle - compressed air forced back through sampler intake tubing to remove residual water),
- sample collection cycle (sample drawn through intake tubing under vacuum to central dispensing vessel),
- sampler purge cycle (compressed air forced back through sampler intake tubing to remove residual water),
- sample dispensing (water flows by gravity from central dispensing vessel to 1 of 24 internal containment vessels),
- cycle ends (internal dispensing arm advances to next internal containment vessel),
- sampler serviced by O'Brien & Gere personnel every 2 - 4 days, and
- samples transferred to containers for transport to laboratory (sampler program reset).

Occasionally, the water level fell below the automatic sampler intake tubing. The automatic samplers were unable to collect samples until the sampler intake tubing was re-submerged. Sub-freezing conditions experienced in November, 1991 also disrupted automatic sampler operation.

When the automatic samplers were serviced, the samples were placed in appropriate containers, chilled to 4°C, and transported to the analytical laboratory for TSS analysis. Each sample was assigned a unique sample designation, identifying sample location, date, and time. Chain of custody procedures and container specifications presented in the QAPP (O'Brien & Gere, 1993) were followed. Field logs are illustrated in Appendix B.

2.03 Quality Assurance/Quality Control Sample Collection

Quality assurance/quality control (QA/QC) samples were collected on a routine basis during the TIPTSSS in accordance with the QAPP (O'Brien & Gere, 1993). These samples included the collection of equipment blank samples and blind duplicate samples at a frequency of five percent (one blank and one blind duplicate for every twenty samples). Equipment blank samples were prepared in the field by rinsing an automatic sampler container with distilled water and collecting the rinsate in a TSS sample container. Blind duplicate samples were prepared by dividing a discrete aliquot into two samples. One of these samples was identified as described in Section 2.02 and submitted to the laboratory. The blind duplicate sample was submitted to the laboratory without indication to the laboratory of where or when the sample was collected. The results of the QA/QC analyses are included in Appendix A and are summarized as follows:

QA/QC Samples	Number of Samples	Mean * (mg/L)	Standard Deviation	Maximum	Minimum
Blank	53	2	2	10	<1
Blind Duplicate **	70	61%	53%	170%	0%

- * Less than detectable concentrations averaged as one-half detection limit.
- ** Blind duplicate results presented as relative percent difference between paired samples.

Blank sample concentrations ranged from less than detectable to 10 mg/L. Variability between blind duplicate concentrations and paired sample concentrations ranged from 0 to 170 relative percent difference, with the mean relative percent difference at 61. These results are not unusual for total suspended solids analyses; suspended solids are not typically evenly distributed throughout the water column. Based on these results, it is concluded that the data generated in this study is acceptable for qualitative and quantitative purposes.

SECTION 3 - DATA PRODUCTION AND REPORTING

3.01 OBG Laboratories, Inc.

OBG Laboratories, Inc. was responsible for performing TSS analysis on approximately 1,319 water samples. These samples were analyzed for total suspended solids in accordance with USEPA method 160.1 (USEPA, 1983). Upon completion of the analyses, OBG Laboratories generated a series of data reports entitled Laboratory Report, General Electric Company, Thompson Island Pool Total Suspended Solids Program, Hudson River, N.Y. These data reports were prepared consistent with New York State Department of Environmental Conservation Analytical Services Protocol (NYSDEC ASP) Category B reporting requirements. These data reports are presented as Appendix A. The organization of Appendix A is presented in the Table of Contents of this report. The data packages contain the following components:

- title page,
- sign-off sheet,
- table of contents,
- case narrative,
- sample result form,
- chain of custody forms,
- sample log-in sheet,
- internal sample control record (internal sample tracking sheet),
- duplicate summary table,
- method blank summary table,

- sample raw data,
- standards summary tables, and
- standards/QC sample (blanks, duplicates) raw data.

SECTION 4 - SAMPLING AND ANALYSIS RESULTS

4.01 Sampling and Analysis Results

The TIPTSSS involved the collection and analysis of water column samples from three locations within the Thompson Island Pool region of the upper Hudson River. The analysis of these samples provided data for TSS concentrations in the water column of the upper Hudson River at specific locations. These data are summarized on Table 2. Original laboratory data, including supporting documentation have been assembled into Appendix A according to the organization presented in the Table of Contents of this report.

REFERENCES

New York State Department of Environmental Conservation. 1983. *Sample Collection Manual*. December 1983.

O'Brien & Gere Engineers, Inc. 1993. *Quality Assurance Project Plan*. Hudson River Project; 1991-1992 Sampling and Analysis Program. Prepared for General Electric Company Corporate Environmental Programs, Albany, NY. May 1993.

U.S. Environmental Protection Agency. 1983. *Methods for Chemical Analysis of Water and Wastes*. USEPA-600/4-79-020. Revised 1983.

U.S. Environmental Protection Agency. 1991. *Phase 1 Report - Interim Characterization and Evaluation. Hudson River PCB Reassessment RI/FS*. Prepared by Tams Consultants, Inc. and Gradient Corporation for Region II. New York, NY.

U.S. Environmental Protection Agency. 1992. *Final Phase 2 Work Plan and Sampling Plan. Hudson River PCB Reassessment RI/FS*. Prepared by Tams Consultants, Inc. and Gradient Corporation for Region II. New York, NY.

Tables



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TABLE 1

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND ANALYSIS PROGRAM

THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY
SAMPLE COLLECTION SCHEDULE

Sites	Approximate River Mile	Time Frame	Sample Collection Interval	Laboratory Analysis
Rogers Island	194.4	4/10/91 - 5/31/91	Every 6 hours, 7 days per week	Total Suspended Solids
Thompson Island Dam	188.5			
Rogers Island	194.3	9/16/91 - 11/21/91	Every 6 hours, 7 days per week	Total Suspended Solids
Thompson Island Dam	188.5			
McDonald Property	189.7			

TABLE 2

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND ANALYSIS PROGRAM

THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY
DATA SUMMARY

Date	Time	TSS Conc. (mg/L)		
		Rogers Island	Thompson Island Dam	McDonald Property
10-Apr-91	18:00	4	3	NA
11-Apr-91	0:00	8	7	NA
11-Apr-91	6:00	7	6	NA
11-Apr-91	12:00	8	7	NA
11-Apr-91	18:00	6	5	NA
12-Apr-91	0:00	4	7	NA
12-Apr-91	6:00	3	7	NA
12-Apr-91	12:00	7	6	NA
12-Apr-91	18:00	6	<1	NA
13-Apr-91	0:00	4	<1	NA
13-Apr-91	6:00	5	5	NA
13-Apr-91	12:00	4	5	NA
13-Apr-91	18:00	6	<1	NA
14-Apr-91	0:00	5	<1	NA
14-Apr-91	6:00	7	2	NA
14-Apr-91	12:00	7	2	NA
14-Apr-91	18:00	7	8	NA
15-Apr-91	0:00	8	8	NA
15-Apr-91	6:00	2	9	NA
15-Apr-91	12:00	1	6	NA
15-Apr-91	18:00	4	<1	NA
16-Apr-91	0:00	<1	2	NA
16-Apr-91	6:00	1	<1	NA
16-Apr-91	12:00	2	1	NA
16-Apr-91	18:00	3	1	NA
17-Apr-91	0:00	2	1	NA
17-Apr-91	6:00	1	2	NA
17-Apr-91	12:00	<1	3	NA
19-Apr-91	18:00	2	2	NA
20-Apr-91	0:00	3	2	NA
20-Apr-91	6:00	5	1	NA
20-Apr-91	12:00	2	1	NA
20-Apr-91	18:00	<1	2	NA
21-Apr-91	0:00	6	17	NA
21-Apr-91	6:00	2	43	NA
21-Apr-91	12:00	<1	330	NA
21-Apr-91	18:00	1	170	NA

* - Sampler failure due to low water or cold temperatures.

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TABLE 2

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND ANALYSIS PROGRAM

THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY
DATA SUMMARY

Date	Time	TSS Conc. (mg/L)		
		Rogers Island	Thompson Island Dam	McDonald Property
22-Apr-91	0:00	4	71	NA
22-Apr-91	6:00	<1	46	NA
22-Apr-91	12:00	<1	26	NA
22-Apr-91	18:00	<1	24	NA
23-Apr-91	0:00	<1	11	NA
23-Apr-91	6:00	3	24	NA
23-Apr-91	12:00	3	11	NA
23-Apr-91	18:00	1	13	NA
24-Apr-91	0:00	1	16	NA
24-Apr-91	6:00	6	14	NA
24-Apr-91	12:00	4	9	NA
24-Apr-91	18:00	4	13	NA
25-Apr-91	0:00	4	10	NA
25-Apr-91	6:00	5	9	NA
25-Apr-91	12:00	<1	10	NA
25-Apr-91	18:00	6	5	NA
26-Apr-91	0:00	5	5	NA
26-Apr-91	6:00	1	9	NA
26-Apr-91	12:00	6	2	NA
26-Apr-91	12:00	5	2	NA
26-Apr-91	18:00	<1	5	NA
27-Apr-91	0:00	<1	1	NA
27-Apr-91	6:00	1	1	NA
27-Apr-91	12:00	2	3	NA
27-Apr-91	18:00	<1	26	NA
28-Apr-91	0:00	3	13	NA
28-Apr-91	6:00	1	4	NA
28-Apr-91	12:00	4	3	NA
28-Apr-91	18:00	5	<1	NA
29-Apr-91	0:00	4	2	NA
29-Apr-91	6:00	3	<1	NA
29-Apr-91	12:00	4	3	NA
29-Apr-91	18:00	<1	2	NA
30-Apr-91	0:00	1	1	NA
30-Apr-91	6:00	3	2	NA
30-Apr-91	12:00	3	3	NA
30-Apr-91	18:00	2	5	NA

* - Sampler failure due to low water or cold temperatures.

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TABLE 2

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND ANALYSIS PROGRAM

THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY
DATA SUMMARY

Date	Time	TSS Conc. (mg/L)		
		Rogers Island	Thompson Island Dam	McDonald Property
01-May-91	0:00	3	10	NA
01-May-91	6:00	4	4	NA
01-May-91	12:00	4	3	NA
01-May-91	18:00	3	4	NA
02-May-91	0:00	3	5	NA
02-May-91	6:00	4	6	NA
02-May-91	12:00	3	13	NA
02-May-91	18:00	5	8	NA
03-May-91	0:00	6	5	NA
03-May-91	6:00	12	8	NA
03-May-91	12:00	7	12	NA
03-May-91	18:00	1	<1	NA
04-May-91	0:00	<1	5	NA
04-May-91	6:00	<1	4	NA
04-May-91	12:00	4	10	NA
04-May-91	18:00	<1	4	NA
05-May-91	0:00	2	6	NA
05-May-91	6:00	<1	4	NA
05-May-91	12:00	1	2	NA
05-May-91	18:00	1	2	NA
06-May-91	0:00	3	8	NA
06-May-91	6:00	3	3	NA
06-May-91	12:00	5	5	NA
06-May-91	18:00	2	5	NA
07-May-91	0:00	4	9	NA
07-May-91	6:00	5	8	NA
07-May-91	12:00	5	7	NA
07-May-91	18:00	5	9	NA
08-May-91	0:00	7	6	NA
08-May-91	6:00	7	6	NA
08-May-91	12:00	<1	11	NA
08-May-91	18:00	1	12	NA
08-May-91	18:00	1	4	NA
09-May-91	0:00	1	5	NA
09-May-91	6:00	4	5	NA
09-May-91	12:00	5	6	NA
09-May-91	18:00	4	4	NA

* - Sampler failure due to low water or cold temperatures.

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TABLE 2

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND ANALYSIS PROGRAM

THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY
DATA SUMMARY

Date	Time	TSS Conc. (mg/L)		
		Rogers Island	Thompson Island Dam	McDonald Property
10-May-91	0:00	5	5	NA
10-May-91	6:00	5	3	NA
10-May-91	12:00	5	4	NA
10-May-91	12:00	8	24	NA
10-May-91	18:00	3	6	NA
11-May-91	0:00	4	74	NA
11-May-91	6:00	2	21	NA
11-May-91	12:00	4	13	NA
11-May-91	18:00	5	23	NA
12-May-91	0:00	<1	11	NA
12-May-91	6:00	2	3	NA
12-May-91	12:00	<1	7	NA
12-May-91	18:00	<1	10	NA
13-May-91	0:00	<1	17	NA
13-May-91	6:00	1	12	NA
13-May-91	12:00	3	7	NA
13-May-91	18:00	2	3	NA
14-May-91	0:00	3	5	NA
14-May-91	6:00	4	2	NA
14-May-91	12:00	3	6	NA
14-May-91	18:00	4	12	NA
15-May-91	0:00	6	36	NA
15-May-91	6:00	5	25	NA
15-May-91	12:00	8	19	NA
15-May-91	18:00	33	7	NA
15-May-91	18:00	37	6	NA
16-May-91	0:00	11	9	NA
16-May-91	6:00	10	8	NA
16-May-91	12:00	10	6	NA
16-May-91	18:00	9	5	NA
17-May-91	0:00	16	7	NA
17-May-91	6:00	9	14	NA
17-May-91	12:00	7	7	NA
17-May-91	12:00	8	7	NA
17-May-91	18:00	5	180	NA
18-May-91	0:00	3	39	NA
18-May-91	6:00	4	43	NA

* - Sampler failure due to low water or cold temperatures.

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TABLE 2

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND ANALYSIS PROGRAM

THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY
DATA SUMMARY

Date	Time	TSS Conc. (mg/L)		
		Rogers Island	Thompson Island Dam	McDonald Property
18-May-91	12:00	9	12	NA
18-May-91	18:00	*	150	NA
19-May-91	0:00	*	60	NA
19-May-91	6:00	*	26	NA
19-May-91	12:00	*	21	NA
19-May-91	18:00	9	54	NA
20-May-91	0:00	7	34	NA
20-May-91	6:00	12	27	NA
20-May-91	12:00	5	22	NA
20-May-91	18:00	5	14	NA
21-May-91	0:00	3	24	NA
21-May-91	6:00	7	9	NA
21-May-91	12:00	6	16	NA
21-May-91	18:00	16	20	NA
22-May-91	0:00	5	30	NA
22-May-91	6:00	*	66	NA
22-May-91	12:00	*	12	NA
22-May-91	18:00	9	4	NA
22-May-91	18:00	7	21	NA
23-May-91	0:00	10	51	NA
23-May-91	6:00	7	5	NA
23-May-91	12:00	10	5	NA
23-May-91	18:00	14	12	NA
24-May-91	0:00	8	6	NA
24-May-91	6:00	*	22	NA
24-May-91	12:00	*	4	NA
24-May-91	18:00	*	*	NA
25-May-91	0:00	9	*	NA
25-May-91	6:00	13	*	NA
25-May-91	12:00	6	24	NA
25-May-91	18:00	6	24	NA
26-May-91	0:00	5	31	NA
26-May-91	6:00	11	25	NA
26-May-91	12:00	4	100	NA
26-May-91	18:00	*	99	NA
27-May-91	0:00	*	52	NA
27-May-91	6:00	2	50	NA

* - Sampler failure due to low water or cold temperatures.

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TABLE 2

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND ANALYSIS PROGRAM

THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY
DATA SUMMARY

Date	Time	TSS Conc. (mg/L)		
		Rogers Island	Thompson Island Dam	McDonald Property
27-May-91	12:00	*	34	NA
27-May-91	18:00	*	34	NA
28-May-91	0:00	6	57	NA
28-May-91	6:00	7	82	NA
28-May-91	12:00	7	45	NA
28-May-91	18:00	10	52	NA
29-May-91	0:00	10	*	NA
29-May-91	6:00	*	130	NA
29-May-91	12:00	*	21	NA
29-May-91	18:00	5	45	NA
30-May-91	0:00	<1	200	NA
30-May-91	6:00	5	6	NA
30-May-91	12:00	4	*	NA
30-May-91	18:00	1	*	NA
31-May-91	0:00	3	*	NA
31-May-91	6:00	5	*	NA
31-May-91	12:00	5	*	NA
16-Sep-91	0:00	<1	<1	3
16-Sep-91	6:00	1	2	4
16-Sep-91	12:00	1	3	1
16-Sep-91	18:00	<1	3	1
17-Sep-91	0:00	2	3	2
17-Sep-91	6:00	2	2	2
17-Sep-91	12:00	3	<1	2
17-Sep-91	18:00	7	<1	1
18-Sep-91	0:00	10	<1	3
18-Sep-91	6:00	10	<1	5
18-Sep-91	12:00	6	<1	7
18-Sep-91	18:00	6	4	6
19-Sep-91	0:00	4	1	6
19-Sep-91	6:00	8	3	5
19-Sep-91	12:00	10	10	5
19-Sep-91	18:00	3	4	5
20-Sep-91	0:00	2	3	2
20-Sep-91	6:00	3	4	<1
20-Sep-91	12:00	1	3	1
20-Sep-91	18:00	3	4	3

* - Sampler failure due to low water or cold temperatures.

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TABLE 2

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND ANALYSIS PROGRAM

THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY
DATA SUMMARY

Date	Time	TSS Conc. (mg/L)		
		Rogers Island	Thompson Island Dam	McDonald Property
21-Sep-91	0:00	3	3	2
21-Sep-91	6:00	5	4	2
21-Sep-91	12:00	4	3	2
21-Sep-91	18:00	7	2	3
22-Sep-91	0:00	8	3	6
22-Sep-91	6:00	7	2	5
22-Sep-91	12:00	7	<1	6
22-Sep-91	18:00	6	2	7
23-Sep-91	0:00	8	1	5
23-Sep-91	6:00	4	2	5
23-Sep-91	12:00	5	3	*
23-Sep-91	18:00	4	6	*
24-Sep-91	0:00	1	5	*
24-Sep-91	6:00	4	5	*
24-Sep-91	12:00	5	4	*
24-Sep-91	18:00	9	4	*
25-Sep-91	0:00	9	3	*
25-Sep-91	6:00	*	4	*
25-Sep-91	12:00	*	5	*
25-Sep-91	18:00	*	6	*
26-Sep-91	0:00	*	14	*
26-Sep-91	6:00	*	11	*
26-Sep-91	12:00	11	3	8
26-Sep-91	18:00	6	2	4
27-Sep-91	0:00	5	2	5
27-Sep-91	6:00	7	7	4
27-Sep-91	12:00	19	7	10
27-Sep-91	18:00	10	9	8
28-Sep-91	0:00	13	6	4
28-Sep-91	6:00	4	6	3
28-Sep-91	12:00	9	5	2
28-Sep-91	18:00	5	6	7
29-Sep-91	0:00	8	7	7
29-Sep-91	6:00	8	7	6
29-Sep-91	12:00	9	5	5
29-Sep-91	18:00	6	7	5
30-Sep-91	0:00	9	6	3

* - Sampler failure due to low water or cold temperatures.

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TABLE 2

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND ANALYSIS PROGRAM

THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY
DATA SUMMARY

Date	Time	TSS Conc. (mg/L)		
		Rogers Island	Thompson Island Dam	McDonald Property
30-Sep-91	6:00	9	9	4
30-Sep-91	12:00	5	<1	2
30-Sep-91	18:00	6	2	2
01-Oct-91	0:00	5	1	4
01-Oct-91	6:00	3	1	3
01-Oct-91	12:00	2	<1	3
01-Oct-91	18:00	3	<1	1
02-Oct-91	0:00	6	<1	2
02-Oct-91	6:00	1	<1	2
02-Oct-91	12:00	7	3	6
02-Oct-91	18:00	10	7	8
03-Oct-91	0:00	3	<1	4
03-Oct-91	6:00	1	3	7
03-Oct-91	12:00	3	3	4
03-Oct-91	18:00	3	2	4
04-Oct-91	0:00	7	2	4
04-Oct-91	6:00	7	3	4
04-Oct-91	12:00	5	1	4
04-Oct-91	18:00	4	2	7
05-Oct-91	0:00	4	4	6
05-Oct-91	6:00	3	6	5
05-Oct-91	12:00	10	3	5
05-Oct-91	18:00	11	3	6
06-Oct-91	0:00	9	4	4
06-Oct-91	6:00	3	9	22
06-Oct-91	12:00	5	8	16
06-Oct-91	18:00	8	13	15
07-Oct-91	0:00	25	12	15
07-Oct-91	6:00	18	6	10
07-Oct-91	12:00	10	1	2
07-Oct-91	18:00	1	1	2
08-Oct-91	0:00	9	<1	2
08-Oct-91	6:00	6	1	3
08-Oct-91	12:00	7	1	3
08-Oct-91	18:00	5	1	2
09-Oct-91	0:00	4	3	3
09-Oct-91	6:00	8	2	4

* - Sampler failure due to low water or cold temperatures.

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TABLE 2

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND ANALYSIS PROGRAM

THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY
DATA SUMMARY

Date	Time	TSS Conc. (mg/L)		
		Rogers Island	Thompson Island Dam	McDonald Property
09-Oct-91	12:00	8	<1	4
09-Oct-91	18:00	9	3	4
10-Oct-91	0:00	9	2	4
10-Oct-91	6:00	8	3	5
10-Oct-91	12:00	2	1	6
10-Oct-91	18:00	1	1	5
11-Oct-91	0:00	<1	<1	6
11-Oct-91	6:00	5	1	3
11-Oct-91	12:00	4	2	2
11-Oct-91	18:00	3	1	4
12-Oct-91	0:00	3	1	2
12-Oct-91	6:00	6	3	4
12-Oct-91	12:00	4	4	4
12-Oct-91	18:00	5	1	3
13-Oct-91	0:00	6	1	5
13-Oct-91	6:00	9	2	3
13-Oct-91	12:00	8	4	2
13-Oct-91	18:00	6	3	2
14-Oct-91	0:00	12	7	2
14-Oct-91	6:00	9	1	7
14-Oct-91	12:00	3	2	4
14-Oct-91	18:00	3	1	3
15-Oct-91	0:00	8	2	4
15-Oct-91	6:00	8	1	2
15-Oct-91	12:00	5	10	4
15-Oct-91	18:00	5	4	5
16-Oct-91	0:00	9	5	7
16-Oct-91	6:00	10	3	6
16-Oct-91	12:00	7	3	5
16-Oct-91	18:00	11	9	5
17-Oct-91	0:00	17	4	8
17-Oct-91	6:00	18	2	6
17-Oct-91	12:00	8	7	8
17-Oct-91	18:00	4	8	5
18-Oct-91	0:00	11	6	6
18-Oct-91	6:00	11	8	5
18-Oct-91	12:00	5	7	8

* - Sampler failure due to low water or cold temperatures.

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TABLE 2

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND ANALYSIS PROGRAM

THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY
DATA SUMMARY

Date	Time	TSS Conc. (mg/L)		
		Rogers Island	Thompson Island Dam	McDonald Property
18-Oct-91	18:00	12	2	<1
19-Oct-91	0:00	12	7	10
19-Oct-91	6:00	12	7	8
19-Oct-91	12:00	17	12	7
19-Oct-91	18:00	15	6	11
20-Oct-91	0:00	14	6	8
20-Oct-91	6:00	18	8	7
20-Oct-91	12:00	18	5	10
20-Oct-91	18:00	28	<1	11
21-Oct-91	0:00	10	4	9
21-Oct-91	6:00	18	6	9
21-Oct-91	12:00	16	5	3
21-Oct-91	18:00	13	7	3
22-Oct-91	0:00	9	4	<1
22-Oct-91	6:00	10	6	4
22-Oct-91	12:00	16	7	5
22-Oct-91	18:00	17	6	2
23-Oct-91	0:00	8	6	5
23-Oct-91	6:00	9	9	8
23-Oct-91	12:00	9	6	5
23-Oct-91	18:00	16	4	4
24-Oct-91	0:00	34	5	6
24-Oct-91	6:00	15	5	4
24-Oct-91	12:00	12	1	8
24-Oct-91	18:00	13	<1	6
25-Oct-91	0:00	27	1	4
25-Oct-91	6:00	11	<1	1
25-Oct-91	12:00	9	1	2
25-Oct-91	18:00	11	1	3
26-Oct-91	0:00	10	1	14
26-Oct-91	6:00	10	1	10
26-Oct-91	12:00	7	1	4
26-Oct-91	18:00	12	2	2
27-Oct-91	0:00	13	5	8
27-Oct-91	6:00	13	6	5
27-Oct-91	12:00	10	5	5
27-Oct-91	18:00	15	4	5

* - Sampler failure due to low water or cold temperatures.

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TABLE 2

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND ANALYSIS PROGRAM

THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY
DATA SUMMARY

Date	Time	TSS Conc. (mg/L)		
		Rogers Island	Thompson Island Dam	McDonald Property
28-Oct-91	0:00	17	90	15
28-Oct-91	6:00	15	71	9
28-Oct-91	12:00	11	36	1
28-Oct-91	18:00	13	23	4
29-Oct-91	0:00	11	51	4
29-Oct-91	6:00	18	31	3
29-Oct-91	12:00	10	45	4
29-Oct-91	18:00	12	23	4
30-Oct-91	0:00	14	25	6
30-Oct-91	6:00	11	20	5
30-Oct-91	12:00	8	12	7
30-Oct-91	18:00	13	41	7
31-Oct-91	0:00	10	28	10
31-Oct-91	6:00	5	32	10
31-Oct-91	12:00	11	23	6
31-Oct-91	18:00	8	18	6
01-Nov-91	0:00	7	19	6
01-Nov-91	6:00	2	25	7
01-Nov-91	12:00	6	20	9
01-Nov-91	18:00	3	29	6
02-Nov-91	0:00	6	27	5
02-Nov-91	6:00	6	32	7
02-Nov-91	12:00	7	16	8
02-Nov-91	18:00	6	20	8
03-Nov-91	0:00	7	15	4
03-Nov-91	6:00	7	17	7
03-Nov-91	12:00	16	11	6
03-Nov-91	18:00	5	12	8
04-Nov-91	0:00	14	7	10
04-Nov-91	6:00	8	7	10
04-Nov-91	12:00	4	10	7
04-Nov-91	18:00	5	2	3
05-Nov-91	0:00	6	7	1
05-Nov-91	6:00	12	5	1
05-Nov-91	12:00	8	*	4
05-Nov-91	18:00	21	*	5
06-Nov-91	0:00	14	*	5

* - Sampler failure due to low water or cold temperatures.

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TABLE 2

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND ANALYSIS PROGRAM

THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY
DATA SUMMARY

Date	Time	TSS Conc. (mg/L)		
		Rogers Island	Thompson Island Dam	McDonald Property
06-Nov-91	6:00	10	*	1
06-Nov-91	12:00	7	*	<1
06-Nov-91	18:00	15	*	1
07-Nov-91	0:00	13	*	1
07-Nov-91	6:00	20	*	1
07-Nov-91	12:00	9	*	*
07-Nov-91	18:00	26	*	*
08-Nov-91	0:00	5	*	*
08-Nov-91	6:00	6	*	*
08-Nov-91	12:00	8	*	*
08-Nov-91	18:00	8	*	*
09-Nov-91	0:00	15	*	*
09-Nov-91	6:00	80	*	*
09-Nov-91	12:00	36	*	*
09-Nov-91	18:00	14	*	*
10-Nov-91	0:00	28	*	*
10-Nov-91	6:00	8	*	*
10-Nov-91	12:00	26	*	*
10-Nov-91	18:00	52	*	*
11-Nov-91	0:00	30	*	*
11-Nov-91	6:00	34	*	*
11-Nov-91	12:00	8	*	15
11-Nov-91	18:00	10	*	4
12-Nov-91	0:00	13	*	8
12-Nov-91	6:00	8	*	10
12-Nov-91	12:00	12	*	6
12-Nov-91	18:00	15	*	6
13-Nov-91	0:00	14	*	8
13-Nov-91	6:00	11	*	8
13-Nov-91	12:00	12	*	6
13-Nov-91	18:00	13	*	14
14-Nov-91	0:00	7	*	6
14-Nov-91	6:00	5	*	6
14-Nov-91	12:00	5	110	3
14-Nov-91	18:00	8	90	5
15-Nov-91	0:00	7	25	4
15-Nov-91	6:00	9	52	7

* - Sampler failure due to low water or cold temperatures.

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TABLE 2

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND ANALYSIS PROGRAM

THOMPSON ISLAND POOL TOTAL SUSPENDED SOLIDS STUDY
DATA SUMMARY

Date	Time	TSS Conc. (mg/L)		
		Rogers Island	Thompson Island Dam	McDonald Property
15-Nov-91	12:00	10	23	5
15-Nov-91	18:00	9	33	6
16-Nov-91	0:00	6	27	7
16-Nov-91	6:00	13	23	8
16-Nov-91	12:00	6	100	6
16-Nov-91	18:00	7	20	13
17-Nov-91	0:00	7	21	9
17-Nov-91	6:00	6	42	14
17-Nov-91	12:00	7	18	7
17-Nov-91	18:00	6	20	7
18-Nov-91	0:00	6	13	4
18-Nov-91	6:00	7	16	*
18-Nov-91	12:00	16	8	3
18-Nov-91	18:00	5	11	3
19-Nov-91	0:00	5	14	4
19-Nov-91	6:00	5	14	2
19-Nov-91	12:00	4	10	4
19-Nov-91	18:00	2	10	4
20-Nov-91	0:00	3	14	2
20-Nov-91	6:00	3	36	2
20-Nov-91	12:00	3	25	2
20-Nov-91	18:00	4	11	6
21-Nov-91	0:00	15	22	3
21-Nov-91	6:00	3	10	3

* - Sampler failure due to low water or cold temperatures.

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Figures



O'BRIEN & GERE
ENGINEERS, INC.

320685



A map of the Lake Umbagog area. The lake is at the top. Below it, the 'AREA OF SAWTELLE FARM' is indicated. To the right of the lake are 'CLARK FALLS' and 'INDIAN FALLS'. Below these are 'SAWTELLE FALLS' and 'FORT EDWARD'. A box is drawn around the area between Sawtelle Falls and Fort Edward. To the left of the lake is 'CONANT'. At the bottom left is 'MECHANICVILLE'. A north arrow is in the bottom left corner.

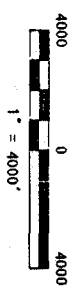




AUTOMATIC SAMPLER LOCATION
 REBUNDANT AREA

GENERAL ELECTRIC COMPANY
HUDSON RIVER PROJECT
1991 SAMPLING AND
ANALYSIS PROGRAM
THOMPSON ISLAND POOL
TOTAL SUSPENDED SOLIDS
STUDY

AUTOMATIC SAMPLER LOCATIONS



O'BRIEN & GERE
ENGINEERS, INC.

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